



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/633,625

08/05/2003

Kyeong Jin Kim

041501-5455-01

6368

9629 7590 03/17/2008  
MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/633,625	<b>Applicant(s)</b> KIM, KYEONG JIN	
	<b>Examiner</b> Dung Nguyen	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-18 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Applicants' amendment dated 11/30/2007 has been received and entered. By the amendment, claims 11-18 and 22 are pending in the application.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-18 rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,122,024 (to Molsen et al.) in view of United States Patent No. 6,222,603 B1 (to Sakai et al.).

As to claim 11, Molsen teaches and discloses switchable liquid crystal devices. Molsen shows in Figure 1, a first substrate (transparent substrate 1), a second substrate (transparent substrate 4) opposing the first substrate (transparent substrate 1), a liquid crystal layer (nematic liquid crystals 8) between the first (1) and second (4) substrates, the liquid crystal having photopolymerisable material with one or more reactive groups mixed in with a non-chiral nematic liquid crystal and whereby ultraviolet radiation forms a helical polymer network (See Column 4, Lines 32-67)(Applicant's liquid crystal layer between the first and second substrates, the liquid crystal layer having a photo-reactant material and a liquid crystal, wherein the photo-reactant material and the liquid crystal form a polymer network.") and the liquid crystal material (8) is aligned in a direction different from the photo-reactant (9)(see figure 2)in

Art Unit: 2871

which some of the photo-reactant material (9) aligned towards the first substrate (1) and some of the liquid crystal material (molecules 8) aligned toward the second substrate (4).

Molsen does not appear to explicitly specify a sealant along a periphery of one of the first and second substrates. Sakai et al. disclose a first sealant (6) and a second sealant (11) along a periphery of a pair of substrates (2). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystal displays at the time the invention was made to modify Molsen in view of Sakai et al. to incorporate first and second sealants along a periphery of one of first and second substrates into a liquid crystal display device to contain the liquid crystal layer and improve an uniform of the cell gap (col. 6, lines 49-50).

As to claims 12-14, the sealant may include thermosetting resins, UV-cured resins, and dual active resins which can harden in the presence of UV rays as well as heating (col. 6, ln 32).

As to claim 15, Molsen et al. disclose an alignment layer for alignment of the liquid crystal layer (3/6).

As to claim 16, a black matrix, a color filter and common electrode (223) all on opposing substrate (220) is conventional elements of a color active matrix display. Therefore, it would have been obvious to one skilled in the art.

As to claim 17-18, Sakai et al. do disclose a spacer (figure 1, 4) to maintain substrate gap. It would have been obvious to one skilled in the art to employ a spacer having a columnar shape.

It should be noted that the limitation of “by light irradiated to cure ... the first and second sealants” recites a one-step process which does not further limit the structure of the device claims. Therefore, this limitation has not been given patentable weight.

Art Unit: 2871

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,122,024 (to Molsen et al.) in view of United States Patent 6,222,603 B1 (to Sakai et al.) and further in view of United States Patent 5,872,609 (to Hiji et al.).

As to claim 22, the modification to Molsen does not appear to explicitly specify that the photo-reactant material remains uncured. Hiji teaches and discloses a light control element and method wherein a liquid crystal and photo-setting uncured material are irradiated with coherent light beams to result in an anisotropic gel in which orientation is periodically fixed (Column 6, Lines 14-40). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Molsen in view of Hiji for an uncured photo-reactant material' so that an anisotropic gel could be formed with periodically fixed orientation.

#### ***Response to Arguments***

4. Applicant's arguments filed 11/30/2007 have been fully considered but they are not persuasive.

Applicant contends that either the Advisory Action was in error or the rejection(s) in the present Office Action are in error by improperly dismiss features considered to have given rise to "further consideration and search". The Examiner respectfully disagrees with Applicant's viewpoint since the amendment dated 05/08/2007 was filed after the Final Office Action (i.e., the prosecution of the case closed) and the new added feature had not been recited prior to the final office action issued; therefore, it would require further consideration to define such new added feature whether allowable. Consequently, the RCE was filed, and such new added feature had

Art Unit: 2871

been considered and updated search if needed; however, such the new added feature has not been given a patentable weight because it recited a one-step process which does not further limit the structure of the device claims. Therefore, the non-final office action dated 08/31/2007 has been properly issued.

Applicant also contends that Molsen et al. and Sakai et al., whether taken individually or in combination, fail to teach all the features of claims 11 as amended. The Examiner is not convinced by this argument since the same is true of the Molsen et al. liquid crystal layer as stated above (see paragraph 2).

Accordingly, the above rejection of those claims stand.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
03/03/2008

/Dung T. Nguyen/  
***Dung Nguyen***  
***Primary Examiner***  
***Art Unit 2871***